

Work Order ID 96951

Tuesday, February 12, 2013 1:56:16 PM

96951

Page 1

Item ID: D2985-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Decal, LH Install

Stop *NS2*

Start Date: 2/12/2013 **Start Qty:** 12,000

12

Cust Item ID:

Required Date: 2/28/2013 **Req'd Qty:** 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date: 13-2-19

Tooling:

Date

Run Start

NR1

6

OC:

Date:

Date

Stop

NR2

Work Order ID 96951

Tuesday, February 12, 2013 1:56:16 PM

96951

Page 2

Item ID: D2985-1

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Decal, LH Install

Stop

NS2

Start Date: 2/12/2013 **Start Qty:** 12.00

12

Cust Item ID:

Required Date: 2/28/2013 **Req'd Qty:** 12.00

12

Customer:

Reference:

Approvals: **Process Plan:**

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

**Sequence ID/
Work Center ID**

**Operation
Description**

**Set Up/
Run Hours**

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

**Reject
Qty**

**Reject
Number**

**Insp.
Stamp**

130

Identify as per dwg & Stock Location: STO23

0.00

130

Packaging

Packaging

Memo

0.00

12X

SP

13-2-22

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Quality Control

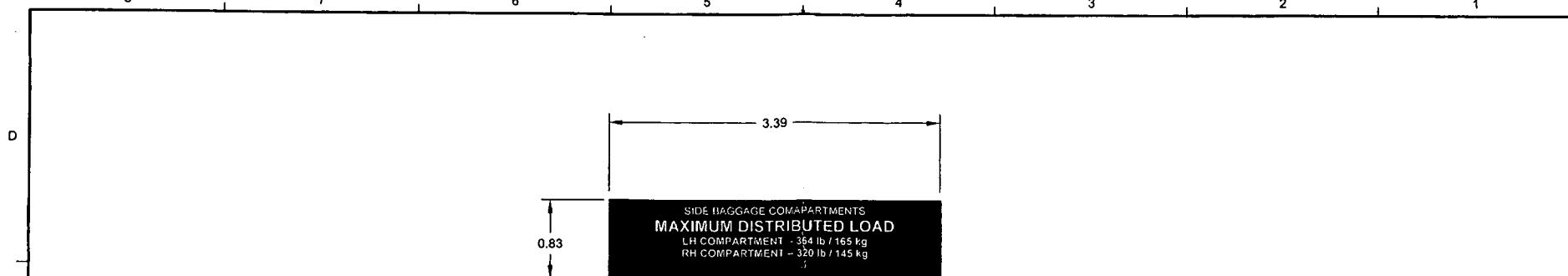
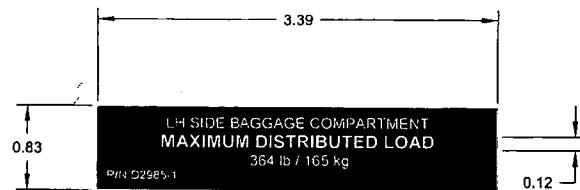
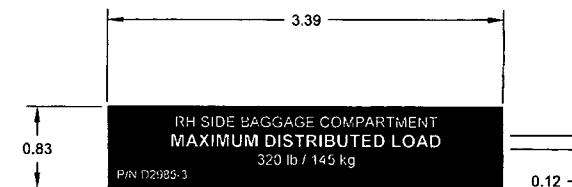
Memo

0.00

13/2/25/20

13/2/22

8 7 6 5 4 3 2 1

D2985 DECALD2985-1 DECAL, LH INSTALLD2985-3 DECAL, RH INSTALL

RELEASED
2013-01-30
mp

NOTES:

- 1) MATERIAL: MAKE FROM 3M 7 MIL MASKING FILM #8522CP OR AVERY IPM#2031
WHITE LETTERS (0.10" HIGH UNLESS OTHERWISE NOTED) ON BLACK ADHESIVE BACK
- 2) FINISH: N/A
- 3) TOLERANCES: N/A
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: LESS THAN 0.01lbs

8 7 6 5 4 3 2 1

B	UPDATE TO CURRENT STD; ADD ALTERNATIVE MATERIAL, ADDED D2985-1/3, REF PAR 12-122	SFM	12.12.04
A	NEW ISSUE	RF	00.09.06
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE LTD	
DRAWN	SFM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>AS</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>AS</i>	D2985	SHEET 1 OF 1
APPROVED	<i>AS</i>	TITLE	SCALE
DE APPR.	<i>AS</i>	DECAL	NTS
DATE	12.12.04	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY OTHER PURPOSE OR COPIED OR DISSEMINATED IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO19088**

Purchase Order Date 2/12/13

PO Print Date 2/12/13

Page Number 1 of 1

Order From : VC-STU001

STUDIO DE LETTRAGE 2001
210 MAIN WEST
HAWKESBURY, ON K6A 2H6
CA

Contact Name		Buyer	Chantal Lavoie
Vendor Phone	613 632 5449	Requisition Nbr	
Vendor Fax	613 632 9491	Tax Resale Nbr	10127-2607
Vendor Account Nbr		Terms	Net 30
		Currency	CAD
		FOB	Destination-Collect

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
2013-02-12

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D2985-1P	Decal, LH Install	2/15/13 Yes	12.00 Each	Yours ppd	\$8.0000	\$96.00
2	D2985-3P	Decal, RH Install	2/15/13 Yes	12.00 Each	Yours ppd	\$8.0000	\$96.00
		Special Inst:	AS PER DWG D2985 REV. B B96951				
		Special Inst:	AS PER DWG D2985 REV. B B96952				

PO Total: \$192.00

CERTIFICATE OF CONFORMITY
REQ'D UPON DELIVERY

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required YES NO

Change Nbr:

1

Change Date: 2/12/13

Studio de Lettrage

210 Main Street W
Hawkesbury, Ontario K6A 2H6

INVOICE

Invoice No.: 19552
Date: 02/15/2013
Ship Date: 02/15/2013
Page: 1
Re: Order No. WO93.24

Sold to:

Dart Aerospace Ltd
1270 Aberdeen
Hawkesbury, Ontario K6A 1K7

Ship to:

Dart Aerospace Ltd
Hawkesbury, Ontario

Business No.: 82500 7651 RT0001

Item No.	Unit	Quantity	Description	Tax	Unit Price	Amount
			12 Stickers D2985-1P 12 Stickers D2985-3P PO#19088 H - HST 13% HST	H H	8.00 8.00	96.00 96.00 24.96
Studio de Lettrage	HST: #825007651RT0001					
Shipped By:	Tracking Number:					
Comment:					Total Amount	216.96
Sold By:						

****Certificate of Conformity****

Customer:

Dart

Purchase Order #:	Packing Slip #:	Part #:	Serial #:
19088	W0.9324	STICKERS.	

Description:	Quantity:
STICKERS	

12x D2985-1P 12x D2985-3P

Certification:

We hereby certify that:

1. The above listed items were manufactured, repaired and/or inspected in accordance with applicable drawings and/or specifications;
2. All work was accomplished in accordance with the Dart Aerospace Purchase Order;
3. Results of all inspections, chemical or physical tests, as well as other evidence, which shows the acceptability of raw materials, parts and/or assembly components are on file and available for inspection at any time.

Authority:

3M

APPROVAL:	Karen Ste. Marie	DATE:
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Karen Ste. Marie

19 Feb. 2013

Signature:	Title:
<u>Karen Ste. Marie</u>	Project Coordinator



Product & Instruction Bulletin 8522

Release I, Effective September 2008

See Bulletin Change Summary and end of Bulletin

This Bulletin now includes Instruction Bulletin 4.23

Scotchcal™ Changeable Opaque Imaging Media

8522

For Thermal Inkjet Printing

Product Description

This durable, 7 mil, opaque, changeable film is optimized for use with selected thermal inkjet printers and inks. Ink dries quickly on the film. When overlaminated, it is warranted for medium term, outdoor weatherable graphics, and long term indoor graphics.

Recommended Types of Graphics and End Uses

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty. Please read the entire Bulletin for details.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
 - Graphics for vans, personal vehicles, trucks and buses
 - Novelty posters
 - Retail and point-of-purchase displays
 - Information graphics such as maps and directories
 - Entertainment promotions in museums, zoos, parks, theatres, sports venues
 - Education and presentation graphics
 - Legal and courtroom exhibits
- For flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs or recommend other products.

Unsuitable End Uses for This Product

- Not for electronically cut individual letters and numbers
- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wallboard
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-800-328-1684 for alternatives.

About Water-Based Inkjet Technology

Standard inkjet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this Bulletin. Staying in the middle of these ranges always provides optimum performance.

Compatible Products

3M Graphic Materials

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See **3M Related Literature** at the end of this Bulletin.

This Bulletin provides details about the base film and construction options and warranty. Additional specific information about compatible products can be found in the Product and Instruction Bulletins listed in **3M Related Literature** at the end of this bulletin.

3M Graphic Materials

For complete details about graphic construction options, recommended uses and durability, refer to the Product Bulletin for the base film or substrate (media) you are using. See **3M Related Literature** at the end of this Bulletin.

Film

- 3M™ Scotchcal™ Opaque Imaging Media 8522
- 3M™ Scotchcal™ Luster Overlaminate 8519
- 3M™ Scotchcal™ Matte Overlaminate 8520

Printers and Inks

HP Designjet Printers	HP Inks
<ul style="list-style-type: none">• 2500CP and 2000CP2800CP and 3800CP3500CP and 3000CP• HP Designjet 5000 and 5500	<ul style="list-style-type: none">• Designjet CP Ink System UV (pigment-based)• Designjet CP Inkjet System (imaging ink)
<ul style="list-style-type: none">• Z6100	<ul style="list-style-type: none">• HP 91 Vivera Ink System

Epson Printers	Epson Inks
<ul style="list-style-type: none">• Stylus Pro 9500• Stylus Pro 10000 printer• Stylus Pro 10600 printer	<ul style="list-style-type: none">• Archival Inks

Characteristics

These are typical values for unprocessed product; processing may change the values. Contact your 3M representative for a custom specification.

Characteristic	Description
Media	7 mil, white, opaque graphic film
Liner	Low-slipage, lay flat paper
Adhesive	Changeable, pressure sensitive
Thickness	Media with adhesive: 7.5 to 8 mil (nominal)
Warranted application substrates	See next page.
Application surfaces	Flat or simple curved surfaces, with or without rivets, used in vertical ($\pm 10^\circ$) applications (no corrugations)
Application temperature range	28° to 110°F (-2° to 43°C) (air and surface)
Removable	For up to one year; see Warranty Information

Characteristic	Description
Warranted application substrates	<p>Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information.</p> <ul style="list-style-type: none"> • Alodine (anodized aluminum) • Automotive panels (automotive painted steel) • Fruehauf (painted aluminum) • FRP (fiberglass reinforced plywood) • Glass • Imron® (polyurethane-painted metal panel) • Acrylic • Sintra™ board <p>Note: Use on any other substrate is strictly on a graphics manufacturer and customer test and approve basis. Test for both adhesion and removal characteristics. The plasticizer in some banner materials may migrate. This may cause the edge of the graphic to peel or lift off of the banner. For optimum performance, follow the guidelines in the section, Creating A Laminated Overlap, on page 4.</p>

Warranty Information

The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. **The warranties in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest.** See the warranty sections following this table for additional information.

3M™ MCS™ Warranty Durability for Finished Graphics

Construction (film and overlaminate on warranted substrate)	HP Printers & Inks		Epson Printers & Inks		Removal
	Outdoor	Indoor	Outdoor	Indoor	
8522/8519	3 years	5 years	2 years	5 years	1 year without chemical strippers or tools
8522/8520					

Warranty and Limited Remedy

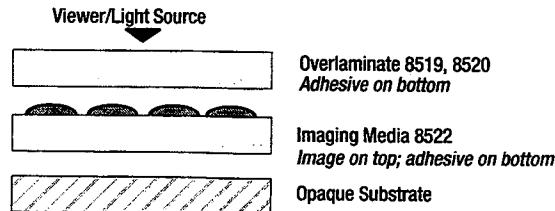
The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

Graphic Construction Options

Opaque Graphics

Opaque graphics made with imaging media 8522 require an overlaminant and an opaque substrate.



Fabrication

Shop Temperature

Acceptable: 60° to 95°F (15° to 35°C)
Optimum: 65° to 73°F (18° to 23°C)

Shop Humidity

Acceptable: 20% to 80%
Optimum: 45% to 60%

Condition the Media Before Use

These steps are especially important if you are operating outside the conditions recommended under Fabrication, above.

- Leave the media in its original packaging until you are ready to condition and use it.
- The day before you need it, remove the media from the box and remove the plastic.
- Condition the media for 24 hours in the same environment as the printer.

Printer Settings for Optimum Quality

Refer to your Hewlett Packard printer manual for detailed operating instructions.

The quality of a printed image depends on a combination of factors: correct media selection, printing software and raster imaging processor (RIP), shop conditions, etc.

The printers qualified to use this media have print mode options that are programmed specifically for these media. Current charts that show the various modes and printing dpi, and the quality results you can expect are available at www.hp.com under the website's support section. We recommend that you print the same image at all of these settings to determine acceptable print and productivity results.

The highest quality settings are usually desirable for backlit applications.

The correct media selection makes most other necessary adjustments to the printer.

- For the HP DesignJet CP 2000 or 3000 series printers, select the **Opaque Vinyl UV** setting.
- For the HP Designjet 5000 series printers, select the **3M Changeable UV** setting or the **HP Durable Gloss UV** or **HP Colorfast Vinyl** setting.
- For the Z series printers, refer to HP's website or printer manuals.

Note: The HP printer settings lay down less ink per pass, which results in better ink absorption and quicker drying times.

- For the HP DesignJet CP 2000 or 3000 series printers, select the **Opaque Vinyl UV** setting.
- For the HP Designjet 5000 series printers, select the **3M Changeable UV** setting or the **HP Durable Gloss UV** or **HP Colorfast Vinyl** setting.
- For the Z series printers, refer to HP's website or printer manuals.

Note: The HP printer settings lay down less ink per pass, which results in better ink absorption and quicker drying times.

Drying Guidelines

Usually, the media can be laminated within 10 minutes after printing. However, especially in high humidity conditions, we recommend waiting 15 to 30 minutes before laminating.

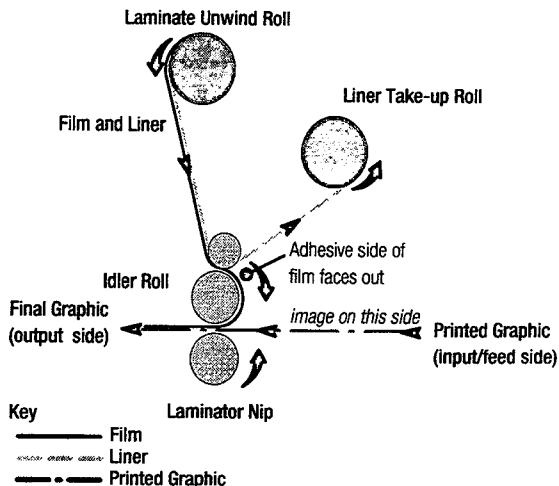
Use care when handling graphics that have not been laminated to avoid scratching and abrasion.

Graphics made with this media and ink combination typically may be wound directly on a take-up roll after printing.

Overlaminate

Whether or not you want a warranted graphic, an overlaminate is recommended to enhance durability, especially in outdoor applications.

FIGURE 1
Typical Laminator Thread-up



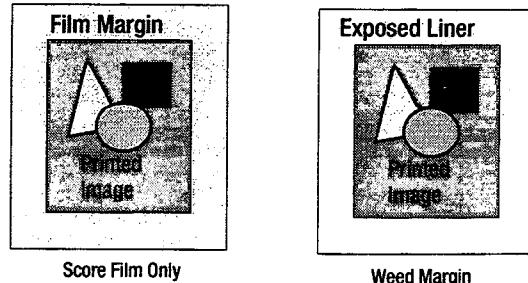
Creating a Laminated Overlap

Creating a laminated overlap helps ensure that the graphic does not peel or lift away from certain banner materials that may be subject to plasticizer migration. This method may also be used for flat, rigid or flexible sign applications.

1. Print the graphic as usual.
2. On all sides of the graphic, score the *film only* to the correct, final graphic dimension *without cutting through the liner*.

Weed away the excess film, leaving the bare liner exposed around the graphic. See FIGURE 2.

FIGURE 2
Trim and Weed Film Margin Only



3. Laminate the graphic as usual (see page 5), making sure that at least one inch of the bare liner is covered by the laminate. See FIGURE 3.